

.DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kob, German Patent # 299 20 853 in view of Mattle, US Patent # 6,829,866.

Regarding claim 1, Kob teaches, in Figure 1 (Shown Below), a wood wall construction

(1) made of wooden beams (2) that are stacked one on top of the other and assembled using screws (3) from the upper side of the beam. The screw (3) bridges two adjacent beams (2) together in an attachment area. The attachment area for the screws (3) only expands part of the thickness of the beam (2). It can be seen the screws (3) have threaded sections at both ends of the screw (3).

Kob does not teach the screws are screwed-in without pre-drilling or that the length of the screws is smaller than the height of the wooden beams. However, Mattle teaches wooden beams that are held together via screws (Abstract).

Mattle also teaches that the screws can be screwed into the beam without pre-drilling the hole that makes it possible to insert the screw deep into the beam (Column 2, Lines 8-11). Finally, Mattle teaches the length of the screws can be shorter than half the height of the beam (Column 2, Lines 3-5). The length of the screws yields cost savings in materials and they also have a low turning

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moment which helps screwing in the screws (Column 2, Lines 5-8). One of ordinary skill in the art at the time of the invention would have been motivated to modify the wooden wall of Kob with the screws of Mattle because the screws would save on material costs. The screws would also have a low turning moment that reduces the required force in screwing in the screws which in turn lets the screws be driven deeper into the beam. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

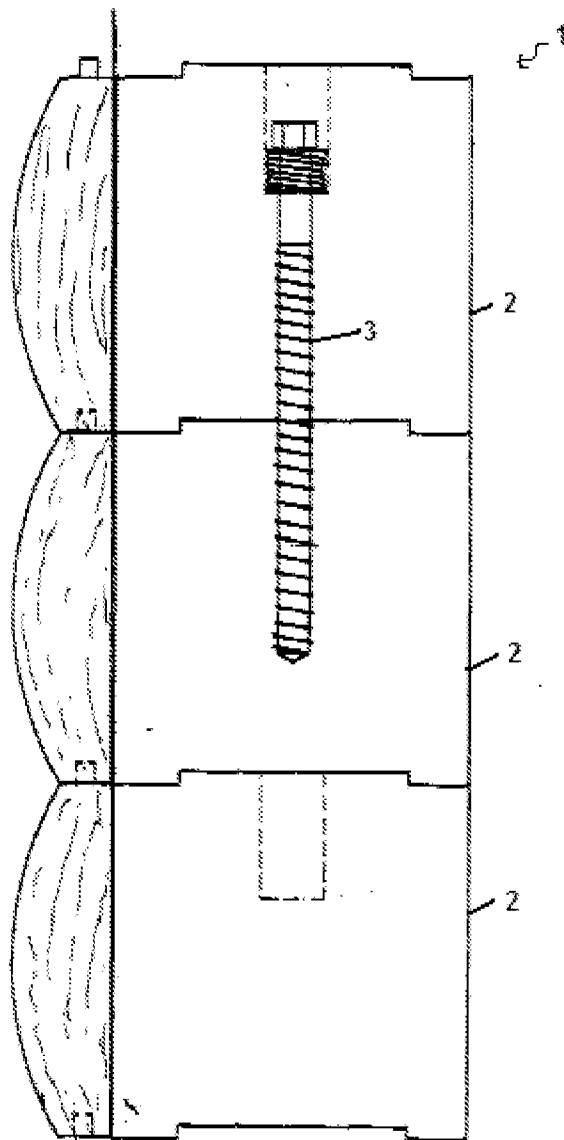


Figure 1

Regarding claim 2, Kob does not necessarily teach the screws extend equally far into both beams. However, Mattle teaches the screw threads extend equally far on both sides to provide adequate anchoring strength (Column 1, Lines 61-67). One of ordinary skill in the art at the time of the invention would have been motivated to screw in the screws so that an equal number of threads were in both beams

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because that insures an equal distribution of stress enabling the screw to anchor the two beams together strongly. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 3, Kob does not teach at least two screws that are spaced apart and parallel to each other. However, Mattle teaches, in Figure 3, two screws that are screwed into the attachment area and are spaced apart and parallel to each other (Column 2, Lines 16-21). Mattle uses two or more screws because they can provide exceptional transverse tension reinforcement (Column 2, Lines 21-25). One of ordinary skill in the art at the time of the invention would have been motivated to modify the wood wall of Kob with two or more screws because two screws provide additional strength opposed to using just one screw. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 4, Kob teaches a wooden wall but his screw is not threaded the entire length. However, Mattle's screw that does not require pre-drilling is threaded the entire length in order to absorb high tension forces over their entire length (Column 2, Lines 27-31). One of ordinary skill in the art at the time of the invention would have been motivated to have screws that have threads down their entire length because the screw could then evenly distribute a load along the entire length. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

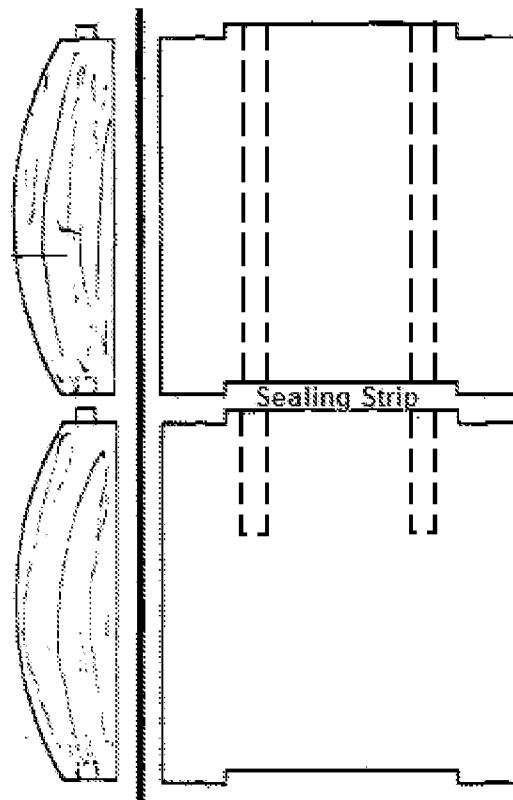
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Regarding claim 5, Kob teaches a wooden wall but does not teach the screws have an interior tool grip and that the diameter of the tool grip is equal or slightly larger than the outside diameter of the threads. However, Mattle teaches a screw that has an internal drive and the diameter of the segment is equal to or slightly greater than the outside diameter of the thread (Column 2, Lines 32-36). The drive head lets the screw be screwed deeply without significant increase in screwing moment and without damage to the threaded regions inside the wood. (Column 2, Lines 36-39). One of ordinary skill in the art at the time of the invention would have been motivated to have a screw with an internal drive that has a head the same size or only slightly larger than the diameter of the threads in order to be able to drive the screw deep into a wooden beam. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 6, Kob nor Mattle teach a strip-shaped sealing material. However, strip-shaped sealing materials are well known in the art. If a sealing strip were used in the wooden wall of Kob, it would be placed as shown in the Figure below. Furthermore, if the invention included two or more screws for securing the beams together, as in applicant's claim 3, they would be located away from the center of the beam and toward the edge. With the screws toward the edge of the beam, they would come into contact with the sealing strip at its edge regions. However, the applicant has not disclosed why screws located at the edge of the strip-shaped sealing material is of a particular purpose and it appears that screws

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located anywhere on the sealing strip would perform just as well. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.



Regarding claim 7, Kob teaches, in Figure 1, that the screws are screwed-in perpendicularly in reference to a longitudinal extension of the wooden beam.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

3. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kob, German Patent # 299 20 853 in view of Mattle, US Patent # 6,829,866 in further view of Callison, US Patent # 5,283,994.

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Regarding claim 8, Kob teaches a wooden wall and Mattle teaches a screw to attach the beams together but they do not teach the screws are screwed in at acute angles. However, Callison teaches a landscape timber system that is secured together with a plurality of spikes that are driven in at acute angles as shown in Figure 5. Callison drives his spikes in at angles in order to provide both horizontal and vertical stability (Column 3, Lines 37-47). One of ordinary skill in the art at the time of the invention would have been motivated to modify beam attachment means to further include screws driven in at acute angles because screws at angles add horizontal stability. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 9, Kob and Mattle teach a wooden wall with screws that are driven in vertically, perpendicular to a longitudinal extension reference from one of the wooden beams. Callison teaches a wooden wall with spikes driven in at an acute angle. One of ordinary skill in the art at the time of the invention would have been motivated to build a wooden wall that uses screws as fasteners wherein the screws were oriented both vertically and at acute angles. Screws in these directions would insure horizontal and vertical stability. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 10, Kob in view of Mattle in further view of Callison teach a wooden wall with screws that are driven in vertically and at acute angles but they do not teach that the screw orientations are alternated. Applicant does not disclose that

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alternating screw positions would solve any stated problem. Applicant only states that perhaps the screws could be screwed-in in an alternating pattern and an optimum solution can be chosen. It would be obvious to try to arrange the screws in different orientations in order to achieve the strongest connection possible.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claim 11, Kob in view of Mattle in further view of Callison teach a wooden wall with screws that are driven in vertically and at acute angles but they do not teach screws that cross each other. Applicant does not disclose that screwed-in pairs of screws that cross one another serves any particular purpose or solves any problem. It appears that screws that do not cross would perform equally well. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.

Response to Arguments

4. Applicant's arguments filed 05 September 2008 have been fully considered but they are not persuasive. The Examiner feels that the Applicant's Attorney is not viewing the references in combination under 35 USC 103(a), but rather as single references by themselves. The German reference of Kob was used to show the general structure of the wooden wall. Since Kob uses a larger screw that is more like a bolt to hole the wooden beams together it would be hard to use these without pre-drilling. The reference of Mattle was used to show that there exists a fastener that can be used without pre-drilling.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Triggs whose telephone number is 571-270-3657. The examiner can normally be reached on Monday through Thursday 7:00am - 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard E. Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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